

CLAIMS

1. A digital camera comprising:

a solid state imaging device that has a light receiving surface, and is provided with an optical low-pass filter;

5 a photographing optical system that forms an object image on said light receiving surface through said optical low-pass filter; and

a storing unit that stores an electronic-charge accumulation-time control program for determining optimum

10 exposure parameters according to which a photography is performed through said photographing optical system and said solid state imaging device, said electronic-charge accumulation-time control program having a program diagram showing a relationship between an electronic-charge accumulation-time and an aperture value and/or an ISO speed, 15 said program diagram having at least one bending point at which said program diagram is bent;

said electronic-charge accumulation-time T at a bending point which is close to the lowest luminous value of said program diagram satisfying the following formula, when a film-converted pixel pitch p ( $\mu\text{m}$ ) of said solid state imaging device, which is defined by dividing a width of a photographing film by the number of pixels arranged in a horizontal direction of said light receiving surface, 20 satisfies  $4p \geq 60$ ;

$$1/(f_c \times (60/4p)) \geq T \geq 1/f_c$$

wherein  $f_c$  indicates a film-converted focal length (mm), with which, when said light receiving surface is enlarged to an area of said photographing film, said object image is formed 5 on the enlarged area with the same angle of view as that for said photographing film.

2. A digital camera according to claim 1, wherein said photographing optical system comprises an optical-zoom type photographing optical system in which a focal length can be 10 changed, and said electronic-charge accumulation-time control programs are provided for a plurality of focal lengths.

3. A digital camera according to claim 2, further comprising:

15 a sensor that senses a focal length set by said optical-zoom type photographing optical system; and  
a selecting processor that selects an electronic-charge accumulation-time control program corresponding to the focal length sensed by said sensor;

20 said optimum exposure parameter being determined based on the selected electronic-charge accumulation-time control program.

4. A digital camera according to claim 1, further comprising an aperture that is disposed between said photographing optical system and said solid state imaging 25

device to adjust the amount of light of said object image, and said optimum exposure parameters contains an aperture value of said aperture and said electronic-charge accumulation-time.

5. A digital camera according to claim 1, further comprising an amplifier that amplifies a pixel signal read from said solid state imaging device, and said optimum exposure parameters containing a gain of said amplifier and said electronic-charge accumulation-time.

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